



SOME THINKING ON CREATING HIGH-QUALITY MODERN SEPARATION TECHNOLOGY TEXTBOOKS FOR THE NEW ERA

Xiaoshuang Chen¹, *Hua Li²

¹ School of Mechanical and Power Engineering, Zhengzhou University, Zhengzhou, China.

² School of Chemical Engineering, Zhengzhou University, Zhengzhou, China. (Corresponding Author)

ABSTRACT

The development of high-quality textbooks is the core of building world-class universities and disciplines, and serves as the primary means for cultivating high-caliber talents and delivering high-quality education. To create high-quality textbooks on modern separation technologies for the new era, four essential elements are required: Firstly, it is necessary to enhance political awareness, adhere to political orientation, Chinese characteristics, and scientific principles, and implement the fundamental task of fostering virtue through education. Secondly, it is important to raise academic standards by prioritizing research to elevate academic rigor, embracing openness to improve theoretical frameworks and integrate into the global context, and linking theory with practice to enhance academic applicability. Thirdly, textbooks should be continuously revised and refined to keep pace with the times, aiming for excellence. Fourthly, modern science and technology should be fully utilized to establish comprehensive teaching resources and enhance the suitability and teachability of textbooks.

KEYWORDS: Modern Separation Technology, Textbooks, The New Era, Case Edition, Thinking

1. INTRODUCTION

Textbooks encompass mature theories and systematic knowledge, condensing the essence of principles across various disciplines. They serve as models for the transmission of human civilization, carrying the important function of nurturing talent. Textbooks are vital carriers for constructing an independent knowledge system and constitute the core of world-class majors and curriculum development. Compared to research papers or monographs, textbooks have stricter academic requirements, broader audience applicability, and higher social value. As textbooks for foundational theory courses in modern separation technologies, they not only bear the mission of knowledge transfer but also shoulder the important responsibility of shaping future engineering and construction talent.

Based on the current state of similar textbooks and graduate education both domestically and internationally, which tend to emphasize conceptual definitions over practical work, theoretical systems over methodological strategies, and teacher-centered instruction over student engagement, the course content itself does not fully align with the concept of being "innovative." As time progresses, some drawbacks and deficiencies have become apparent. In response, we have recompiled high-quality textbooks on modern separation technologies for the new era. During the compilation process, we realized that to create high-quality textbooks on modern separation technologies for the new era, we need to focus our efforts on four aspects: firstly, we must enhance our political awareness to fulfill the fundamental task of fostering virtue through education; secondly, we should raise our academic standards to improve the theoretical framework of the textbooks; thirdly, we need to continuously revise and refine the textbooks

to polish them into high-quality works; and fourthly, we should establish comprehensive supporting resources to enhance the teaching applicability of the textbooks.

2. THINKING ON BUILDING HIGH-QUALITY MODERN SEPARATION TECHNOLOGY TEXTBOOK IN THE NEW ERA

2.1 Enhance political awareness and fulfill the fundamental task of fostering virtue through education.

Education is the cornerstone of national progress, and textbooks, as the carriers of school education, are not only tools for the transmission of knowledge but also platforms for political guidance and value shaping. "Modern Separation Techniques" is a core textbook for majors related to modern separation technologies, embodying a distinct political orientation and value system within its professional theories and knowledge frameworks. The compilers need to enhance their political awareness, fully understand the new situations and requirements faced by textbook work, consciously align their thoughts and actions with the decisions and deployments of the Party Central Committee, and recognize the creation of high-quality textbooks from the perspective of "implementing national authority, accelerating the construction of an education powerhouse, and advancing the great rejuvenation of the Chinese nation." They should make the textbooks they compile carriers of advanced thoughts, correct ideas, and scientific knowledge, and diligently create high-quality textbooks that "nourish the roots and cast the soul, enlighten the mind and enhance wisdom," contributing to the effort to build China's independent knowledge system. To achieve this, the compilation of textbooks must adhere to the principles of political orientation, Chinese characteristics, and scientificity.

2.2 Enhance academic standing and improve the textbook system.

Textbooks serve the function of professional education and possess rigorous academic requirements. High-quality textbooks on modern separation techniques must possess a complete theoretical system, rigorous logical sequence, strict academic norms, and substantial academic support, meeting basic academic requirements such as the accuracy of factual descriptions, the correctness of theoretical viewpoints, and the scientificity of problem interpretation.

1) High-quality textbooks should reflect first-class academic standards. Compilers need to enhance their academic standing, benchmark against the most advanced schools and similar textbooks domestically and internationally, adopt their strengths, and promote their own advantages, striving to excel. Textbook compilation requires scientific research to precede it. We have always adhered to the interactive promotion between textbook compilation and scientific research, conducting research with questions from textbook compilation and using research results to enhance the quality of textbooks. In the compilation process, the relationship between inheritance and innovation should be handled well. Common and essential principles and consensuses should be abstracted from existing research results to consolidate the theoretical foundation of textbooks. Keeping pace with the trajectory and frontiers of academic research in modern separation techniques, textbooks should precisely refine categorical terminology, strive to condense basic knowledge, fundamental principles, basic methods, and internal logic, continuously improve the theoretical and knowledge systems of textbooks, and create high-quality textbooks with high academic standards and distinct Chinese characteristics.

2) Adopt an open attitude and international perspective, embracing diverse elements.

3) Integrate theory with practice to enhance academic applicability. The theories selected in textbooks should be combined with practice, especially closely with the actual situation of enterprises. Enhancing relevance and a sense of the times is conducive to students combining their observations and experiences of reality. Attention should be paid to using Chinese cases and data to illustrate theories, enabling students to better understand and master the principles and methods of modern separation techniques. Exploring ways to solve problems using the theories and methods of the field can stimulate students' interest in learning and deep thinking. Academic quality is not only reflected in the depth and breadth of textbook content but also in its ability to stimulate students' critical thinking and innovation capabilities. Textbooks on modern separation techniques should not only delve into classic theories but also actively explore emerging theories, raising questions that require deep thinking but have no ready answers, encouraging students to question and innovate existing theories. Through academic cultivation, students learn to analyze problems from multiple perspectives, dare to present independent opinions, and develop independent

judgment and decision-making abilities.

2.3 Regular updates and continuous refinement are crucial for producing high-quality textbooks that keep pace with the times.

Through dynamic and ongoing revisions, textbooks can incorporate the latest academic research findings and engineering practice development experiences, which are vital for students to understand and grasp the principles of new phenomena. The revision of textbooks is not just about updating content; it also involves continuous exploration of teaching methods and philosophies. During the revision process of our textbook "Modern Separation Techniques," we focus on two aspects: Firstly, we incorporate advanced teaching methods from both domestic and international contexts, such as case-based learning, question-and-answer sessions, problem-oriented research studies, and real-world problem discussions, to enhance students' critical thinking and problem-solving abilities. Secondly, we emphasize teaching research, continuously refining our textbook through collaborative discussions on educational reform. Prior to the start of each semester, we organize teaching seminars to identify issues encountered in using the textbook and propose suggestions for improvement, with the writing team making targeted modifications based on these issues. We integrate the construction of high-quality textbooks with the development of first-class courses and excellent teaching teams, fostering mutual enhancement and working tirelessly to improve the educational quality of modern separation technology programs.

2.4 Built supporting teaching resources, enhance the Textbook Applicability

In the digital era, the applicability of textbooks is no longer solely determined by the breadth and depth of their content, but also by their ability to integrate advanced technology with teaching resources and emerging teaching methods to strengthen the alignment between textbooks and teaching, thereby meeting the teaching needs of the new era. The digital transformation of textbooks is a vital component of the digital transformation of education and teaching. Since 2020, we have been exploring digital innovative textbooks, aiming to integrate multimedia resources, online resources, and print textbooks through digital means such as QR codes, links, and web addresses, creating a new model of three-dimensional, multi-dimensional, and dynamically linked textbooks. The core of this model lies in expanding the knowledge capacity and academic content of textbooks and enhancing their teaching applicability. By integrating text, images, videos, audios, and interactive content, the presentation of textbooks becomes more diverse, vivid, and intuitive, providing students with personalized learning paths and significantly enhancing their learning interest and engagement. This model is highly popular among students for autonomous learning, with over 5,000 university students registered to use the textbook on the "iCourse" platform alone. The digital transformation of the "Modern Separation Techniques" textbook addresses the challenge of integrating online and offline resources in course teaching. This innovative textbook model, combined with MOOCs, supports flipped classrooms, SPOCs, and blended online and offline teaching

in over 100 universities in China, achieving widespread sharing of high-quality educational resources. Currently, we are exploring the path of digital transformation for textbooks, striving to deeply integrate modern technology into textbooks and leveraging digitization and intelligence to explore the construction of new textbook forms. Our goals include achieving graphical representation of theoretical knowledge, dynamic updating of textbook content, expansion of textbook capacity, diversification of textbook presentation forms, and enrichment of supporting resources.

3. CONCLUSION

Under the background of the new era, we will thoroughly study and comprehend the important directives of General Secretary Xi Jinping regarding textbook work. With the goal of “establishing a high-quality textbook system with Chinese characteristics,” we regard the creation of high-quality textbooks on modern separation technologies in China as a long-term and sustained endeavor. We will wholeheartedly devote ourselves to this task, grasp the needs of the times, update the concepts for textbook compilation, continuously solve compilation challenges, and enhance the suitability and teachability of textbooks. We strive to compile high-level and exquisite textbooks that “students are willing to learn and teachers are willing to teach,” contributing to accelerating the construction of an education powerhouse and advancing the great rejuvenation of the Chinese nation.

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